

From: [McKenna, James \(Jim\)](#)
To: [Burt Shephard/R10/USEPA/US@EPA](#); [Helle B. Andersen](#)
Cc: [Gene Revelas](#); [John Toll](#); [Jessica Pisano](#); [Lisa Saban](#); [Mike Johns](#); [ricka@bes.ci.portland.or.us](#); [rjw@nwnatural.com](#); [Valerie Oster](#); [Eric Blischke/R10/USEPA/US@EPA](#); [Chip Humphrey/R10/USEPA/US@EPA](#); [Joe Goulet/R10/USEPA/US@EPA](#); [rgensemer@parametrix.com](#)
Subject: RE: Lindane test
Date: 10/29/2007 01:13 PM

Burt and Helle:

Just for my information: what is the solubility limit for the lindane? Was this the concentration at which we saw 12/5% mortality in ammocoetes? Jim.

-----Original Message-----

From: Shephard.Burt@epamail.epa.gov
[mailto:Shephard.Burt@epamail.epa.gov]
Sent: Monday, October 29, 2007 1:04 PM
To: Helle B. Andersen
Cc: Gene Revelas; John Toll; Jessica Pisano; Lisa Saban; McKenna, James (Jim); Mike Johns; ricka@bes.ci.portland.or.us; rjw@nwnatural.com; Valerie Oster; Blischke.Eric@epamail.epa.gov; Humphrey.Chip@epamail.epa.gov; Goulet.Joe@epamail.epa.gov; rgensemer@parametrix.com
Subject: Re: Lindane test

Thanks Helle for the update.

I'd had a brief chat with a couple of folks about what to do about lindane before the test was complete, anticipating you might run into a solubility maximum problem given where the rangefinder tests came out. A couple of options were to 1.) report out the LC50 as a greater than value, or 2.) run the test with a carrier solvent. Given that one of the ultimate purposes of the toxicity studies was to evaluate the protectiveness of water column screening level benchmarks or toxicity reference values such as ambient water quality criteria to lamprey, it may be good enough to know that the LC50 is substantially higher than the water column benchmark, even though we don't have a numerical estimate of the LC50. I assume, but couldn't tell from your message, that the 12.5% mortality in the highest test concentration was the only partial mortality you got above allowable control mortality.

This also could potentially be an issue for diazinon when NAS gets to that test. My recommendation is to let Dick Caldwell complete his workup of the lindane results, wait for the definitive analytical results to come back in from the exposure tanks (not the monitoring results that Dick is doing, although they should also be informative), then identify the path forward. I know what my ultimate recommendation would be, but I haven't talked with any site managers about it yet.

In the meantime, I've attached a spreadsheet section that compiles the available high quality LC50 data for freshwater species exposed to lindane. Its linked to other files in our office, just click on don't update links unless you like watching your computer hang up. The ECA term you'll see in the spreadsheet is defined as the LC50 divided by 2.27 (roughly analogous to the approach EPA uses to derive water quality criteria, which divides a final acute value by two, I can give you the details if you like, but they're not applicable to Portland Harbor, the spreadsheet was developed for other work). The CA term is the acute lindane water quality criterion. You can make your own judgement regarding the relative sensitivity of lamprey to other aquatic species.

Best regards,

Burt Shephard
Risk Evaluation Unit
Office of Environmental Assessment (OEA-095)
U.S. Environmental Protection Agency, Region 10
1200 6th Avenue
Seattle, WA 98101

Telephone: (206) 553-6359
Fax: (206) 553-0119

e-mail: Shephard.Burt@epa.gov

"If your experiment needs statistics to analyze the results, then you ought to have done a better experiment"
- Ernest Rutherford

(See attached file: Lindane freshwater Table 3-1.xls)

"Helle B.
Andersen"
<helleb@windward
env.com>

10/26/2007 12:09
PM

To
Burt Shephard/R10/USEPA/US@EPA
cc
"John Toll"
<johnt@windwardenv.com>, "Lisa
Saban" <lisas@windwardenv.com>,
"Mike Johns"
<mikej@windwardenv.com>, "Jessica

Pisano" <jpisano@anchorenv.com>,
"Valerie Oster"
<voster@anchorenv.com>, "Gene
Revelas"
<grevelas@integral-corp.com>,
"McKenna, James \"Jim\""
<mckenj@portptld.com>,
<ricka@bes.ci.portland.or.us>,
<rjw@nwnatural.com>
Subject
Lindane test

Burt,
The lindane toxicity test that ended earlier this week was not able to produce an LC50. Only 12.5% of the ammocoetes died in the highest concentration. The highest concentration was close to saturation based on information on the solubility of lindane at 17C and Dick Caldwell's experiences with the chemical. The lab will continue working with the three remaining chemicals (starting with naphthalene) which will provide EPA and LWG time to discuss the results of the lindane test and the path forward for testing with lindane.
Helle

Helle B. Andersen
Windward Environmental LLC
200 West Mercer Street, Suite 401
Seattle, WA 98119

Direct Line (206) 577-1287
Phone (206) 378-1364
Fax (206) 217-0089
hellea@windwardenv.com

This communication is made under the framework of the LWG Participation Agreement and in the parties' common interests in meeting LWG member obligations under the Administrative Order on Consent and in anticipation of litigation concerning liability for the Portland Harbor Superfund site. This communication is intended and believed by the parties to be part of an ongoing and joint effort to develop and maintain a common legal strategy and contains strategies, work product and legal advice within the "common interest" extension of the attorney-client privilege and the work product doctrine. This communication may include attorney-client communications. With respect to communications by private LWG members to public members, those communications are with the expectation that they will be kept confidential by the public entities. The information is intended to be for the use of the individual or entity named above. If you are not the intended recipient, please be aware that any disclosure, copying, distribution or use of the contents of this information is prohibited. If you have received this electronic transmission in error, please notify us by electronic mail at hellea@windwardenv.com.